

REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO: 92-018

NPDES NO CA 0029840

WASTE DISCHARGE REQUIREMENTS FOR:

FMC CORPORATION
333 WEST JULIAN STREET
SAN JOSE, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. FMC Corporation (FMC) hereinafter called the discharger, by the application received October 30, 1991, has applied for its permit to discharge to surface waters under the National Pollutant Discharge Elimination System (NPDES).
2. The discharger owns a non-operating manufacturing facility on an approximately 11 acre parcel at 333 West Julian Street in the City of San Jose, Santa Clara County. Buildings at the site are currently used for records and parts storage. The site is located near the intersection of the Guadalupe Parkway and West Julian Street and bordered on the west side by the Guadalupe River (Figure 1). FMC has occupied the property since the early 1900s and manufactured agricultural and food processing equipment, and later, military products. Manufacturing ceased in 1986. Due to the long use of the site as a manufacturing facility, the sediments are polluted by metals and VOCs. VOCs, such as TCE, TCA, DCE isomers and PCE are found in the shallow groundwater and cleanup of the A-level aquifer has been ordered by the Board.
3. FMC proposed several groundwater remedial alternatives for the A-level aquifer in "Remedial Alternatives Report, FMC Corporation, 333 West Julian Street Facility, San Jose, California", April, 1990. Based upon the results of groundwater modeling, aquifer and plume characteristics, and O&M costs, the discharger proposes to install an interception/extraction trench for groundwater remediation (Figure 2).

Groundwater pollution has been detected at levels above MCLs in six A-level aquifer wells in the southerly half of the site. Solvents found in the groundwater include the following VOCs: 1,1,1-trichloroethane (1,1,1-TCA), trichloroethylene (TCE), 1,2-dichloroethane (1,2-DCA), 1,2-dichloroethylene isomers (1,2-DCE), tetrachloroethylene (PCE), 1,1-

dichloroethane (1,1-DCA), 1,1-dichloroethylene (1,1-DCE), and vinyl chloride. The following table lists the estimated maximum influent concentrations for the treatment system.

| <u>POLLUTANTS</u> | <u>MAX CONCENTRATION (µg/l)</u> |
|-------------------|---------------------------------|
| 1,1,1-TCA | 1700 |
| TCE | 190 |
| 1,2-DCA | 5.4 |
| 1,2-DCE | 580 |
| PCE | trace |
| 1,1-DCA | 240 |
| 1,1-DCE | 410 |
| vinyl chloride | 6.4 |

4. The groundwater interception/extraction trench will be constructed along the southerly and easterly site boundaries to capture impacted groundwater flowing towards the hydraulically downgradient side of the property. The trench will be constructed in three separate sections with a total length of 660 feet. Each section of the trench will be about 30 feet deep and key into the top of the aquitard below the A-level aquifer. The base of each section of the trench will have a slope of 1 to 2 percent towards a central sump to collect the groundwater for removal and treatment. The trench will be constructed of permeable material within the zone of groundwater and a less permeable cover to reduce surface water infiltration.
5. The groundwater treatment system will consist of a cascade air stripper to volatilize dissolved VOCs (Figure 3). A cascade air stripper was selected because the design reduces maintenance requirements and the system can easily accommodate changes in groundwater flow and/or chemistry by the addition of extra trays. Air will be forced through a four-tray system at 524 cubic feet per minute. Air emissions abatement is not required by the BAAQMD at this time due to the low flow rate and VOC concentrations in the water.

A polyphosphate mixture is proposed to be added to the influent to prevent scaling. The self-monitoring program will include system testing of the polyphosphate additive.

6. The discharger, as part of the permit application package, has evaluated three potential discharge options: 1) reuse, 2) discharge to the POTW, and 3) discharge regulated by an NPDES permit.

Offsite water reuse is limited by the lack of a distribution network to move the water from the site. Truck access may be possible but is limited by the need for site security. The small volume of water available further limits the economic feasibility of offsite reuse of the water.

Treated groundwater water will be available for reuse, although how much water will be used is not yet determined. No landscaping exists onsite or on adjacent properties nearby the treatment system. The discharger is exploring water reuse options through landscape irrigation on the adjacent Guadalupe Parkway where landscaping may be planted. Irrigation water as a reuse option may also be possible in the Guadalupe River Park.

Discharge to the POTW is not currently legal or feasible. The City of San Jose Municipal Code Section 15.12.200 states that the discharge of groundwater into the sanitary sewer system is prohibited.

Based on these options, the discharger has proposed that the most cost effective solution is to discharge the treated groundwater to surface waters. In the interest of efficiency and groundwater conservation, groundwater extraction has been reduced to the minimum that will provide containment of the contaminant plume.

7. The proposed discharge will consist of the treated waste stream as permitted in this Order. Average flow is expected to be 2 gallons per minute (gpm) with a maximum flow of 10 gpm. The proposed discharge of the effluent stream will be to an onsite storm drain tributary to the Guadalupe River, Alviso Slough and South San Francisco Bay (Figure 2). Water that may be reused prior to discharge will be stored onsite in a 9,400 gallon tank. The tank will facilitate future water reuse options such as truck deliveries.
8. The discharger is currently under SCO 89-107 formerly adopted by the Board on June 21, 1989 and as amended by SCO 90-122 adopted on August 15, 1990. The site cleanup requirements include tasks to investigate site soil and groundwater pollution and to propose remedial actions. These orders also adopt cleanup levels for groundwater and require implementation of cleanup objectives and the preferred remedial alternative(s).
9. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for South San Francisco Bay, and contiguous surface and groundwater.

10. The existing and potential beneficial uses of the surface water adjacent to and contiguous with Guadalupe River, Alviso Slough and South San Francisco Bay include:
 - a. Contact and non-contact water recreation
 - b. Wildlife habitat
 - c. Preservation of rare and endangered species
 - d. Estuarine habitat
 - e. Fish spawning and migration
 - f. Industrial service supply
 - g. Navigation
 - h. Ocean commercial and sport fishing
11. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses" (a) "at any point in San Francisco Bay south of the Dumbarton Bridge" and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, deadend slough, similar confined water, or any immediate tributary thereof."
12. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 11 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.
13. Exceptions to the prohibitions referred to in Finding 11 are warranted for this discharge because the discharge is an integral part of a program to cleanup polluted groundwater and thereby produce an environmental benefit. Discharge of waste is a privilege, not a right. Authorization to discharge is conditional upon the discharge complying with provisions of Division 7 of the California Water Code and any more stringent effluent limitations necessary to implement water quality control plans, to protect beneficial uses, and to prevent nuisance. Compliance with this Order should assure this and limit any potential adverse changes in water quality due to the discharge. Should studies indicate chronic effects, not currently anticipated, the Board will review the requirements of this Order based upon section B.1.e.
14. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." The discharger's groundwater extraction and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.
15. Effluent limitations of this Order (as shown in Tables 1 & 2 below) are based on the Basin Plan, State and U.S. Environmental Protection Agency (EPA) plans and policies, best

available treatment economically available (BATEA), and best technical judgement. Also considered in the determination of effluent limits were the EPA Region IX draft guidance "NPDES Permit Limitations for Discharge of Contaminated Groundwater: Guidance Document", and the San Francisco Bay Regional Water Quality Control Board Internal Memorandum dated February 16, 1990, "Proposed NPDES Permit Limits For Common Organic Pollutants Found at Service Stations and Other Groundwater Cleanup Sites."

16. Table 3 states Proposed Effluent Limitations for Shallow Water Discharges to Freshwater, to be proposed for adoption in the Basin Plan Update for 1993. The discharge of groundwater to surface waters from sites subject to cleanup may contain metals at concentrations that exceed the shallow water effluent limitations. The need to minimize the potential for aquatic toxicity due to elevated levels of metals must be balanced against several factors: the total mass loading from these discharges is relatively low; the cost of treatment may be high; and, the metals concentrations may be due either to pollution or natural occurrences of these metals in source formations.

Information will be compiled during 1992 to evaluate attainability of the Basin Plan Amendment for shallow water effluent limitations of metals. By 1993, the effluent limitations for metals found in Table 3 may be implemented by modification of this NPDES permit in accordance with California regulations on NPDES permits, including opportunity for public hearing and comment on the proposed modifications.

17. The issuance of waste discharge requirements for the discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
18. The Board has notified the discharger and interested agencies and persons of its intent, under the provisions of Division 7 of the California Water Code Section, to prescribe Waste Discharge Requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.
19. This action is an order to enforce the laws and regulations administered by the Regional Board. This action is categorically exempt from the provisions of CEQA pursuant to Section 15321 of the Resources Agency Guidelines.
20. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. EFFLUENT LIMITATIONS

1. Effluent shall not exceed 18,000 gallons per day.
2. The discharge of waste at the storm drain (E-1) containing constituents in excess of the following limits is prohibited:

TABLE 1

| Constituent | Instantaneous Maximum Limit ($\mu\text{g/l}$) |
|------------------------------|---|
| <u>VOC's</u> | |
| 1,1,1-Trichloroethane | 5.0 |
| Tetrachloroethylene | 5.0 |
| Trichloroethylene | 5.0 |
| 1,1 Dichloroethylene | 5.0 |
| 1,2-Dichloroethane | 0.5 |
| Vinyl Chloride | 0.5 |
| 1,2-Dichloroethylene isomers | 5.0 |
| 1,1-Dichloroethane | 5.0 |
| 1,1,2-Trichloroethane | 5.0 |
| Methylene Chloride | 5.0 |
| Chloroform | 5.0 |
| Total VOCs | 10.0 ¹ |

INORGANICS

| | |
|------------------|------|
| Arsenic | 20.0 |
| Cadmium | 10.0 |
| Chromium (total) | 11.0 |
| Copper | 20.0 |
| Cyanide | 25.0 |
| Lead | 5.6 |
| Mercury | 1.0 |
| Nickel | 7.1 |
| Selenium | 5.0 |
| Silver | 2.3 |
| Zinc | 58.0 |

¹ Total of analytes detected by USEPA Method 601

3. The discharge of waste at E-1 containing constituents in excess of the following limits is prohibited:

TABLE 2

| | <u>Units</u> | <u>Instantaneous Maximum</u> |
|---------------------------|--------------|----------------------------------|
| a. Total Suspended Solids | mg/l | 30 |
| b. Settleable Matter | ml/l-hr | 0.2 |
| c. Total Dissolved Solids | mg/l | 2000 |

4. The pH of the discharge of waste E-1 shall not exceed 8.5 nor be less than 6.5.
5. Toxicity: The survival of rainbow trout in 96-hour bioassay of the effluent for E-1 as discharged, shall be a median of 90% survival and a 90 percentile value of not less than 70%.
6. The discharge of waste at E-1 containing constituents in excess of the following limits may be prohibited by means of permit modification in accordance with California regulations on NPDES permits including opportunity for public hearing and comment after December 31, 1992.

TABLE 3

Shallow Water Freshwater Limits ($\mu\text{g/l}$)

| CONSTITUENT | HUMAN HEALTH ¹ 30-day Average | AQUATIC LIFE ² Daily Average |
|---------------|---|--|
| Arsenic | 5 | 190 |
| Cadmium | 10 | 1.1** |
| Chromium (VI) | 50 | 11 |
| Copper | 1000* | 11.8** |
| Cyanide | NA | 5.2 |
| Lead | 50 | 3.2** |
| Mercury | 0.01 | 2.4** |
| Nickel | 600 | 160** |
| Selenium | 10 | 5 |
| Silver | 50 | 4** |
| Zinc | 5000* | 110** |

1. Primary MCL, except as noted

2. National Ambient Water Quality Criteria

* Secondary MCL

** Proposed National Ambient Water Quality Criteria

B. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation.
 - b. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
 - c. Un-ionized ammonia: 0.025 mg/l Annual Median (as N)
0.400 mg/l Maximum
3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the

Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. PROVISIONS

1. The Discharger shall comply with all sections of this order immediately upon adoption and according to the task schedule below.

a. **TASK: PROPOSALS FOR THE DETERMINATION OF BACKGROUND METALS CONCENTRATIONS**

Submit a technical report acceptable to the Executive Officer which contains a proposal to determine the level of naturally occurring metals in the groundwater at the site. This study shall include, but need not be limited to, the sampling and analysis in this Self-Monitoring Plan, the location(s) of background groundwater samples to be obtained (sampling to be concurrent with the Self-Monitoring Plan), specification of the analytical methods for metals and the expected laboratory detection limits and QA/QC procedures.

COMPLETION DATE: May 31, 1992

b. **TASK: BACKGROUND METALS CONCENTRATIONS RESULTS**

Submit a technical report acceptable to the Executive Officer which contains the results of the groundwater metals study. The report shall include a comparison of background and affected A-level aquifer conditions to the shallow water discharge effluent concentration limits as indicated in Table 1. Should results of the study show that natural background metals concentrations cause the effluent to exceed shallow water effluent limits, the discharger shall provide a technical and cost analysis of increased treatment to reduce mass loading of metals.

COMPLETION DATE: October 31, 1992

2. The discharger shall comply with the Self-Monitoring Program as adopted by the Board and as may be amended by the Executive Officer.
3. The discharger shall also notify the Regional Board if the self-monitoring program results indicate, or if any discharge activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit.

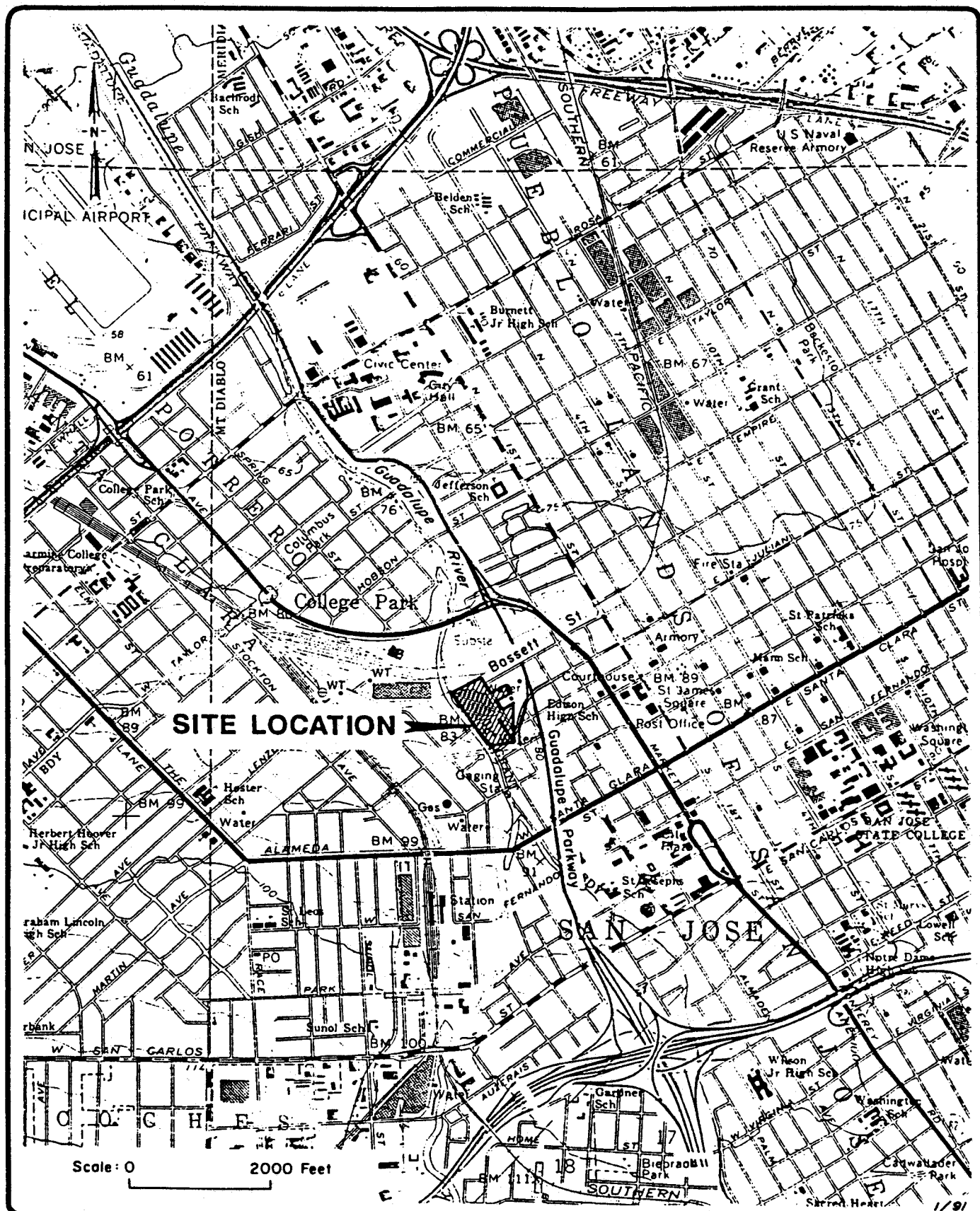
4. This Order includes all items of the attached "Standard Provisions and Reporting Requirements" dated December 1986 except A.10, B.2, B.3, C.8, and C.11.
5. Any noncompliance with a requirement of this Order shall be reported as stated in section C.10 of the "Standard Provisions and Reporting Requirements" referred to in C.4. above.
6. This Order expires February 19, 1997. The discharger must file a report of Waste Discharge in accordance with Title 23, Division 3, Chapter 9 of the California Code of Regulations no later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
7. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall become effective at the end of ten days from date of hearing provided the Regional Administrator, U. S. Environmental Protection Agency, has no objection.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on February 19, 1992.



STEVEN R. RITCHIE
Executive Officer

Attachments: Groundwater Extraction System
 Site Map
 Standard Provisions and Reporting Requirements -
 December 1986
 Self-Monitoring Program - December 1986



FMC

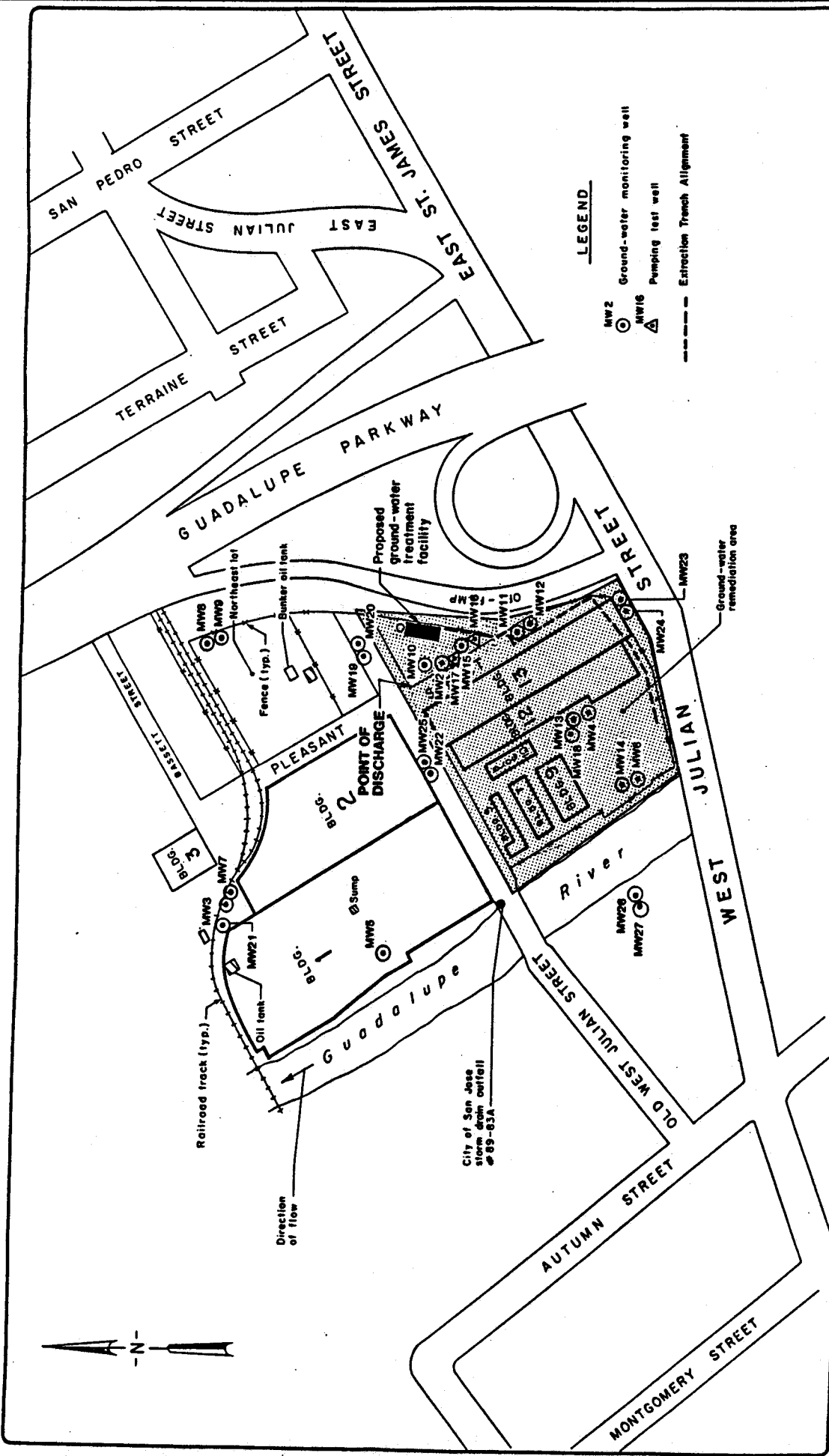
FMC CORPORATION
JULIAN STREET FACILITY
HYDROGEOLOGIC EVALUATION
SAN JOSE, CALIFORNIA

SITE LOCATION

FIGURE

1

PROJECT NO.
885-03.28



9/91

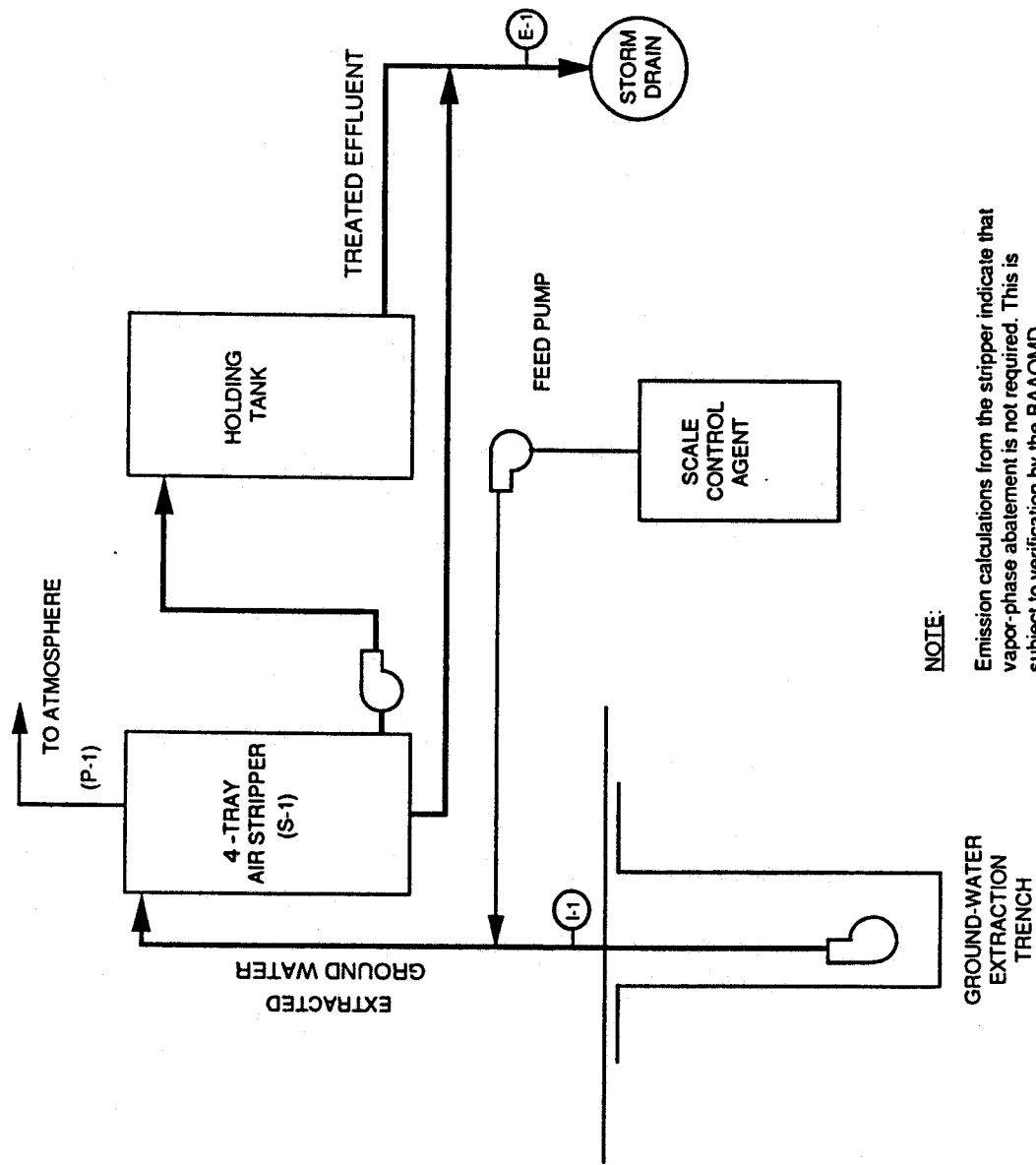
FIGURE
2
PROJECT NO.
885 - 03.29

FMC CORPORATION
JULIAN STREET FACILITY
GROUND-WATER REMEDIATION PROJECT
SAN JOSE, CALIFORNIA

SITE PLAN

Scale: 0 200 400 600 Feet

FMC



5/6/91

FIGURE

3

PROJECT NO.
885 - 03.29

FMC CORPORATION
JULIAN STREET FACILITY
GROUND-WATER REMEDIATION PROJECT
SAN JOSE, CALIFORNIA

PROCESS FLOW DIAGRAM

FMC

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

FMC CORPORATION
333 WEST JULIAN STREET
SAN JOSE, SANTA CLARA COUNTY

NPDES NO. CA 0029840

ORDER NO. 92-018

CONSISTING OF

PART A, dated December 1986 and modified January 1987,
 including Appendices A through E

PART B, Adopted: February 19, 1992

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Stations

Description

I-001

At a point in the extraction system immediately prior to inflow to the treatment unit.

B. EFFLUENT

Stations

Description

E-001

At a point in the discharge line immediately following treatment and prior to the effluent reaching the storm drain tributary of the Guadalupe River.

R-001

At a point in the Guadalupe River, greater than 100 feet but less than 200 feet downstream from the storm sewer discharge point into the stream.

II. SCHEDULE OF SAMPLING AND ANALYSIS

A. The schedule of sampling and analysis shall be that given in Table A (attached).

III. MISCELLANEOUS REPORTING

If any chemical additives other than the polyphosphate additives referenced in Finding 5 of the Order are proposed to be used in the treatment of extracted groundwater, it shall be reported thirty (30) days prior to their use and documented in the regular quarterly reports.

IV. MODIFICATION TO PART A

A. Deletions:

Sections D.1.a., D.2.a., D.2.f., D.2.g., D.2.h., D.3., E.1.e., E.3., E.4., E.5., and F.2.b.

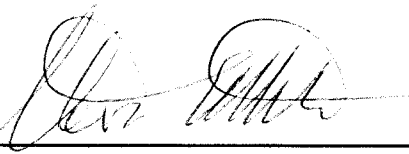
B. Modifications:

1. D.2.a. Samples of effluent shall be collected at times coincident (same day) with influent sampling unless otherwise stipulated. The Regional Board or Executive Officer may approve an alternative sampling plan if it is demonstrated that expected operating conditions warrant a deviation from the standard sampling plan.
2. D.2.d If two consecutive samples of any one constituent or parameter monitored on a weekly or monthly basis in a 30 day period exceed the effluent limit or are otherwise out of compliance, or if the required sampling frequency is once per month or less and the sample or parameter exceeds the limit or is otherwise out of compliance, the discharger shall propose correction procedures for acceptance or approval by the Board or Executive Officer, on a case by case basis.
3. D.2.e. Within twenty-four (24) hours of receiving the analytic results indicating a violation of any instantaneous maximum limit, a confirmation sample shall be taken with analytic results known within twenty-four (24) hours. In the case that the same instantaneous limit is violated in the second sample, the discharge shall be terminated until the cause of the violation is found and corrected. Alternative methods of verifying and correcting violations of instantaneous maximum limits may be substituted with the approval of the Executive Officer.
4. F.2.a. Total flow shall be recorded continuously.

5. G.4. Written reports as required under G.4. shall be submitted based on a calendar quarter basis, not later than 30 days following the last day of the quarter.
6. G.4.b. The report format shall be in a form acceptable to the Executive Officer of the Regional Board.
7. G.4.e. The report format shall be in a form acceptable to the Executive Officer of the Regional Board. NPDES Discharge Monitoring Report, EPA Form 3320-1, is provided as guidance.
8. G.5. The annual report shall contain all data required for the fourth quarter in addition to summary data required for annual reporting. This report may be submitted in lieu of the report for the fourth quarter of a calendar year.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 92-018.
2. Was adopted by the Board on February 19, 1992.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer or Regional Board.



STEVEN R. RITCHIE
EXECUTIVE OFFICER

Attachment: Table A

TABLE A
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

| Sampling Station | I-1 | E-1 | R-1 |
|--|-----|--------|-----|
| TYPE OF SAMPLE | G | G | G |
| Flow Rate (mgd) | | Cont | |
| BOD, 5-day 20°, or COD (mg/l & kg/day) | | | |
| Chlorine Residual & Dosage (mg/l & kg/day) | | | |
| Settleable Matter (ml/1-hr. & ft ³ /day) | | Q | |
| Total Suspended Matter (mg/l) | | Q | |
| Total Dissolved Solids | Q | Q | Y |
| Oil and Grease (mg/l & kg/day) | | | |
| Bio-assay 96-hr % survival (flow- through or static) | | Y | |
| Ammonia Nitrogen (mg/l & kg/day) | | V | |
| Turbidity (NTU's) | | | |
| pH (units) | M | M | Y |
| Dissolved Oxygen (mg/l and % saturation) | | Y | Y |
| Temperature (°C) | | M | Y |
| Apparent Color | | | |
| Arsenic (µg/l) | | 2M/Q/Y | Y |
| Cadmium (µg/l) | | 2M/Q/Y | Y |
| Chromium, Total (µg/l) | | 2M/Q/Y | Y |
| Copper (µg/l) | | 2M/Q/Y | Y |
| Cyanide (µg/l) | | 2M/Q/Y | Y |
| Lead (µg/l) | | 2M/Q/Y | Y |
| Mercury (µg/l) | | 2M/Q/Y | Y |
| Nickel (µg/l) | | 2M/Q/Y | Y |
| Selenium (µg/l) | | 2M/Q/Y | Y |
| Silver (µg/l) | | 2M/Q/Y | Y |
| Zinc (µg/l) | | 2M/Q/Y | Y |

| Sampling Station | I-1 | E-1 | R-1 |
|---------------------------------------|-----|-----|-----|
| TYPE OF SAMPLE | G | G | G |
| EPA 601 | Y | M | |
| EPA 602 | | | |
| EPA 624 ¹ | Y | Y | |
| EPA 625 ² | Y | Y | |
| EPA 8015 (Modified TPH and Diesel) | | | |

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = 24 hr. composite
Cont. = continuous sampling
DI = depth integrated sample
BS = bottom sediment sample
O = observation

TYPES OF STATIONS

I = intake or influent stations
E = effluent sampling stations
D = discharge point sampling stations
R = receiving water sample stations
L = basin and/or pond levee stations
B = bottom sediment station
G = groundwater station

FREQUENCY OF SAMPLING

E = each occurrence
H = once each hour
D = once each day
W = once each week
M = once each month

Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/y = once in March and once in
September
Q = quarterly, once in March, June,
September, and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

V = varies; analysis for total
ammonia nitrogen and unionized
ammonia calculated whenever fish
bioassay results fail to meet the
specified percent survival rate

2M/Y = monthly for first 2 months
yearly thereafter
M/Y = monthly first year, yearly
thereafter
Q/Y = concomitant with other
quarterly analysis, yearly thereafter
2M/Q/Y = monthly for first 2
months, quarterly for next 3
quarters, yearly thereafter

¹ In lieu of 601 analysis and coincident with 625 analysis

² In lieu of 601 analysis and coincident with 624 analysis